Occupational HAZARDS

DECEMBER 1940

Articles of Economic Interest to Management

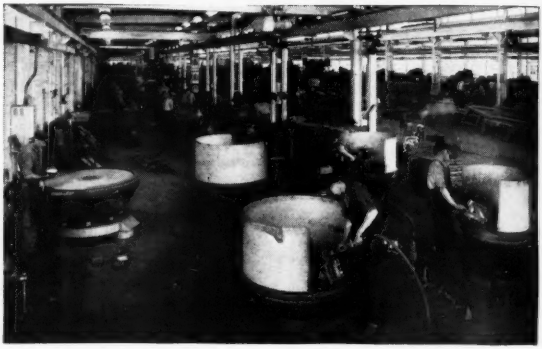
- Health and safety practices followed in construction of Pennsylvania Turnpike.
- Minimizing spray booth hazards.
- Health activities pay out in small plant.
- What an industrial dispensary needs.
- How to control occupational diseases from vibrating hand tools.

The only management publication devoted exclusively to the engineering control of:

Dusts • Fumes • Vapors • Gases • Organic Solvents
Dermatitis • Industrial Sanitation
Industrial Health & Safety

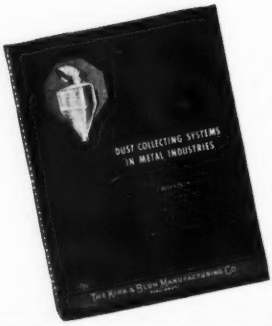
KIRK & BLUM

protect Workers' Health



New Castings Cleaning Department, Monarch Machine Tool Co. Fine particles which ordinarily would fill the air, are now exhausted through top grilles of grinding bucks on which work is placed. In the Sanding Department, shown in rear, down draft ventilation through grille-topped tables makes sanding operation on painted castings clean, safe and eliminates need for masks.

The unique System recently installed in the new addition to the Monarch Machine Tool Company plant at Sidney, Ohio, is another outstanding example of how Kirk & Blum Engineers design, engineer and install Dust Control and Fume Removal Systems to meet individual plant requirements. The top of each working station is a large grating through which air is exhausted to pull away all dust, rust, sand, paint spray, etc. These gratings are so located that the workmen never inhale dust or fumes, nor do they have to work in a bent-over position. All piping is entirely under the floor.



Regardless of what your dust or fume removal problems may be, Kirk & Blum Engineers, backed by a third century of specialized experience, can solve them to your complete satisfaction. Every Kirk & Blum Installation is covered by a written performance guarantee.

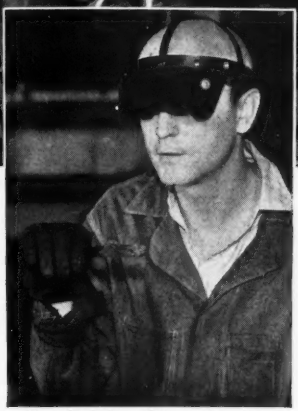
KIRK & BLUM BOOKS

- "Dust Collecting Systems in Metal Industries"
- "Blower Systems for Woodworking Plants"
- "Fan Systems for Various Industries"
- "Industrial Ovens"

Mailed on request to interested executives.

THE KIRK & BLUM MFG. CO.
2802 Spring Grove Ave. Cincinnati, Ohio

Operator welding with Type B shield. Fireproof cap (which can be supplied when desired) deflects sparks—gives added comfort.



By slightly tilting the head backward, operator inspects work through under-vision.

When not in use, shield may be pushed back over the forehead in "up" position.

JACKSON

Sweat Band No. 5

Made of sponge cellulose securely stitched to fabricoid with an inner lining of cork. Absorbs fifteen times its weight in water. Designed to snap inside the head bands of all Jackson Eyeshields except Types D, D-6 and No. 25. Ask your dealer.

JACKSON Eyeshields

Wide, Undistorted Vision—Safe—Comfortable

For oxy-acetylene cutting and welding, this Type B shield (patented) is in a class by itself. It's well ventilated, non-fogging, fire resisting. Bakelite lens frame takes standard Federal specification (2″ x 4⅛″) lenses. Side protectors are of opaque fibre. Multiple adjustment assures a fine fit to any head.

Contact your dealer today—or write to us.

Write for eyeshield folder describing this and fourteen other types.

JACKSON ELECTRODE HOLDER CO.

Department S-1, 15122 Mack Avenue Detroit, Michigan

Useful Free Literature

The literature briefly described in this department gives important information on products and equipment designed to control occupational hazards. Manufacturers' technical executives tell of the features to be found in their goods. Be sure to get all available data through this literature before buying. Note those items desired on coupon below and mail. See pages 3 and 4 for New Products.

355—EDISON ELECTRIC LAMPS—MINE SAFETY APPLIANCES COMPANY—4 Page bulletin giving details on Edison Electric Flood, Hand, Trip and Cage lamps.

356—SENSIBLE VENTILATION—ILG ELECTRIC VENTILATING COMPANY—A book describing 26 successful solutions of ventilating problems as engineered by Ilg. Operating details on fans are also given.

357—WASHROOM CLEANER. BRADLEY WASHFOUNTAIN COMPANY—Pamphlet describing the use of Bradex, an all around cleaner for use on washroom fixtures and other washroom facilities. Ingredients and directions for use are pointed out.

358—HANDLING INDUSTRIAL LOADS. THE ELWELL-PARKER ELECTRIC COMPANY—Well conceived 12 page publication, pointing out how this company's line of handling equipment saves money. 7 typical steps are described.

359—DUST CONTROL. KIRK & BLUM MANUFACTURING COMPANY—This company presents the many applications of its blower systems for wood working plants in a well prepared book. The presentation is of importance to every industrial executive interested in employee working conditions.

360—SAF-T-KLENZ. BERMAN CHEMICAL COMPANY—Pamphlet describing a product that provides a slip proof and germ free floor upon application. Saf-T-Klenz is a pure, non-poisonous, sterilizing cleansing agent.

361—HAND CLEANER. SUGAR BEET PRODUCTS COMPANY—4 page booklet defining 7 aspects of industrial skin cleaning problems. Free offer is made.

362—WASTE SAFETY CANS. JUSTRITE MANUFACTURING COMPANY—Circular describing this company's line of approved safety cans. Operating features, prices and sizes are detailed.

363—CARE AND HANDLING OF OXYGEN AND ACETYLENE CYLINDERS. THE LINDE AIR PRODUCTS COMPANY—Chart showing what should and should not be done in the safe and efficient handling of oxygen and acetylene cylinders.

364—ACID HANDLING EQUIPMENT. Pulmosan Safety Equipment Corporation. Important information giving advice on how to handle various hazardous and harmful acids. Numerous products are indicated.

FREE LITERATURE COUPON Clip out and paste on postcard or enclose in envelope.
Mail to: OCCUPATIONAL HAZARDS, 812 Huron Road, Cleveland, Ohio.

Nos. of desired items .....

Firm Name .....

Your Name ..... Position .....

Street and Number of Your Firm .....

City ..... State .....

FL-27

NEW PRODUCTS

NEW, IMPROVED VERSION OF LEHIGH "PAR-GRIP" SAFETY BOOT. Lehigh Safety Shoe Company of Allentown, Pa., last year introduced the "Par-Grip" Safety Boot illustrated herewith. The sole is made in one flat piece from toe to heel, which doubles the normal traction area. In addition, the sole is moulded in a deep, diamond-shaped grid pattern forming dozens of tiny "suction cups" that grip wet floors like a rubber plunger. And Lehigh now makes the "Par-Grip" boot with a Neoprene-treated vamp (foot-part) and a special-compound Neoprene sole that will give skid-protection, toe protection, and exceptionally long service where floors are oily, greasy, or wet with strong cleaning compounds. The new, improved model can be worn both outdoors and in.

This "Par-Grip" safety sole is available in knee-boot or ankle-boot models, black or white . . . all with the Lehigh Armorplate steel Toe Box built in for toe protection, and with a genuine leather insole to prevent the "burn" commonly caused by all day use of rubber footwear.

For use in plants where extreme grease and oily floor conditions prevail, Lehigh also makes an all-Neoprene boot without the "Par-Grip" safety sole construction.

PROTECTIVE SIDE SHIELD: A cellulose acetate side shield for use on workmen's spectacle type protective goggles, is a new development in the line of products manufactured by The Kimball Safety Products Company, Cleveland, Ohio. It is made from strong plastic material either clear or tinted to reduce glare.

The purpose of the shield is to provide added protection against particles getting into the eye from the side at the same time not interfering with vision.

The shield is inexpensive, yet durable. It is easily applied or replaced by merely slipping it on over the temple or ear piece.

NEW TAIL LINE: The M.S.A. Steel Safety Belt Tail Line is introduced by Mine Safety Appliances Co. of Pittsburgh, Pa. This new unit is a belt anchor claimed to possess high strength, excellent durability and versatility in application, supplying new freedom of action for the man on the job. The Tail Line consists of an aircraft-type cable, light and flexible, yet tested to 3900 pounds. Drop forged steel snaps at either end are swaged-on by the exclusive M.S.A. Velocity Power process, providing a joint between snap and cable of strength equal to the cable itself, the company announces. The steel cable, available in any

length, may be furnished with a covering for firm, comfortable grasp, resistant to weathering, oil, and abrasive action. The

M. S. A. Steel Safety Belt Tail Line is quickly attachable to the D-ring of the worker's belt. Complete details are presented in Bulletin No. CF-6, copies of which may be secured by writing this publication, or direct to Mine Safety Appliances Co., Braddock, Thomas, and Meade Sts., Pittsburgh, Pa.

NEW BULLETIN ON ELECTROMODE INDUSTRIAL PORTABLE ELECTRIC HEATERS: A new bulletin on their Electromode Industrial Portable Electric

Heater is announced by The American Foundry Equipment Co., Mishawaka, Ind. This bulletin lists complete specifications, dimensions, capacity ratings, and features. A copy of Bulletin #15 can be obtained by writing to this magazine or direct to the manufacturer.

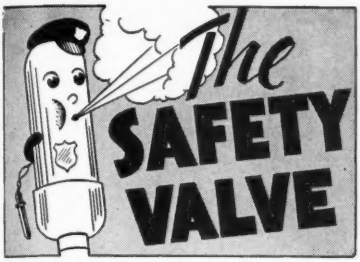
FIXTURE CLEANER: A new cleaning agent to be called Bradex is announced by the Bradley Washfountain Co., Milwaukee, Wisconsin. Developed especially for Bradley Washfountains, Multi-Stall Showers, and Drinking Fountains, Bradex can be used on all washroom facilities. It is economical, safe, easy to use.

Descriptive literature and prices will be supplied gladly upon request to this magazine or direct to the Bradex Department, Bradley Washfountain Company, Milwaukee, Wisconsin.

NEW DOOR SAFETY DEVICE: An ingenious, automatic safety control for Kinnear Motor Operated Rolling Doors, as well as other types of Kinnear upward-acting doors, has just been announced, by the Kinnear Manufacturing Company, Columbus, Ohio. Through its application

on the door, it greatly reduces the possibility of injury to persons or damage to cars, in case doors are carelessly closed by attendants who fail to note whether or not the opening is completely cleared when they push the control button.

The precision and rapidity with which this device operates can be judged from the fact that a man can allow a door to come down on his head with practically no discomfort. While the accompanying illustration gives a general idea of this equipment, further details will be gladly sent to those addressing the manufacturer.



Noted Doctor Comments on Industrial Health

Dr. Thomas Parran, Surgeon General of the United States Public Health Service has this to say about the health of industrial employees:

"Another urgent task involves the protection and promotion of the health of industrial workers. With the vast expansion of the war industries, many new industrial hazards appear and familiar ones are intensified. When new factories are designed, expert industrial hygiene advice is required for proper installation of power exhausts of chemical gases. Records of present performance show the need of extended industrial hygiene measures to control and prevent special health hazards. In the recruitment and training of workers, thorough physical examinations are necessary upon employment and periodically thereafter. It is wasteful for industry to train a highly skilled employee over long months, only to have him break down suddenly with tuberculosis, mental disease, or some other crippling condition. The expansion of war industries will bring acute problems of housing, medical care, and health protection for workers and their families. Our industrial machines are the most efficient in the world. The men and women who man the machines must have a comparable efficiency.

New!
DUPOR No. 1
Miniature RESPIRATOR

Protection against
NUISANCE DUSTS

Regardless whether you operate a sander, mix cement, spray paint, grade roads, work in a textile mill, shovel coal, etc., you'll want this handiest of all respirators.

SAMPLE
$1.00
Postpaid

- Handy as a pair of glasses.
- Can be worn with goggles
- Does not interfere when eating or talking.
- Has 9 sq. in. filtration area.
- Patented valve exhausts stale air.
- Rubber nose piece fits any nose.
- Weighs only 1 OUNCE
- Dozens of uses in every plant
- Unbreakable—LOW PRICED!
- Only $12.00 per dozen.

H. S. COVER
333 Chippewa St.
South Bend, Ind.

New Appointment

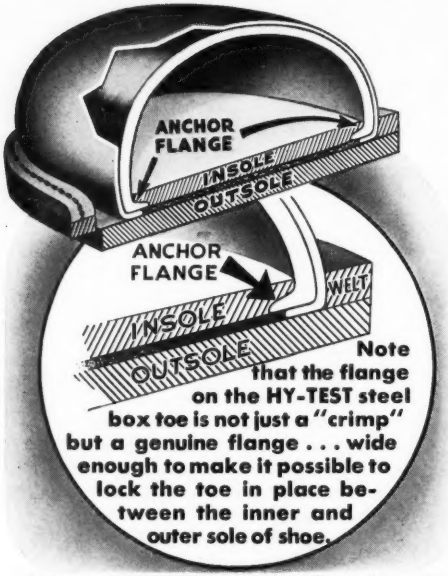
Dr. J. Wm. Crosson, has been appointed Director of the Bureau of Industrial Hygiene of the West Virginia State Health Department. Dr. Crosson was formerly with the Division of Industrial Hygiene of the National Institute of Health.

Good Idea

One of the more interesting forms of safety promotion consists of payroll inserts with a safety message on one side, recipes on the other.

INFORMATION PLEASE

ABOUT AMERICA'S LARGEST SELLING SAFETY SHOE


ANCHOR FLANGE
INSOLE
OUTSOLE
ANCHOR FLANGE
WELT
INSOLE
OUTSOLE
Note that the flange on the HY-TEST steel box toe is not just a "crimp" but a genuine flange . . . wide enough to make it possible to lock the toe in place between the inner and outer sole of shoe.

*The original Hy-Test "Anchor Flange" is a reinforcing rim formed by turning inward the extended bottom edge of the steel box toe. This flange extends completely around the bottom of the toe, and is wide enough to make it possible to anchor the toe securely in place between the inner and outer sole.

***Question:* Why is Hy-Test a better safety shoe?**

Answer: Because it offers a "plus" in protection that ordinary safety shoes do not have . . . the original and genuine Hy-Test "Anchor Flange."*

***Question:* Why does that make Hy-Test a safer safety shoe?**

Answer: Because it provides a steel box toe that will not shift or tip back when hit, since it is locked into place between the inner and outer sole. 2. Eliminates sharp edges which might cut down through the sole, imprisoning the toes. 3. Provides a reinforced toe to prevent flattening out when hit.

That's why every third pair of safety shoes worn in industry today are Hy-Test.

HY-TEST INTERNATIONAL SHOE CO. SAFETY SHOES

HY-TEST *Safety Shoes*

HY-TEST DIVISION, INTERNATIONAL SHOE CO., SAINT LOUIS, MO.

Occupational HAZARDS

DECEMBER 1940

Volume 3 Number 3

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812 Huron Road, Cleveland, Ohio

Jack Weiss, Editor

Irving B. Hexter, President L. P. Aurbach, Vice-President

Safety in Construction
Highway - The Pe
Turnpik

This tremendous construction proje had n accident hazards. Top notch mana ent, safety regulations made for an o andin

THE many unusual problems and circumstances associated with the construction of the Pennsylvania Turnpike make the safety program of that project of special interest.

The construction was unusual and particularly hazardous by the very nature of the work. Tunnels partially driven (approximately 30%), then abandoned for 52 years, and now to be driven to completion, held the biggest challenge to the safety of workmen. An entirely new road, 162 miles long through virgin country, by-passing all towns and utilizing tunnels to go through the mountains at seven different points—offered an opportunity for well applied safety engineering. This superb feat of engineering and construction was to be completed in one year and six months.

It is important to look into a little of the background of this highway. It is only then that some of the problems, otherwise not apparent, are realized.

The route was first surveyed in 1936, and as a result, the State Legislature passed a law in May 1937 creating the Pennsylvania Turnpike Commission, a body with the power to finance and construct the highway.

While the commission went along as well as possible, making plans and laying the groundwork on the money it had, few people throughout the State felt that the road would ever be built. There was constant speculation as to whether the job would be done; its status was quite uncertain.

On October 10, 1938, however, a federal loan of $62,000,000 was received and the Turnpike was very definitely under way. The funds were allotted with the understanding that

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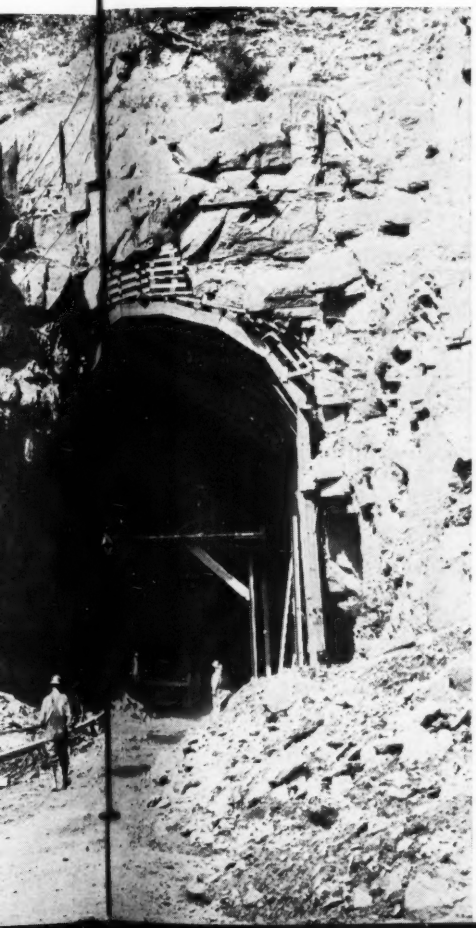
onstruction of the Dream y - The Pennsylvania Turnpike

ruction proje had more than its share of health and notch manag ent, strict adherence to all health and de for an o anding record.



the project would be completed by June 29, 1940.

Plans were worked on by day and night. Though funds were obtained as late as October 10, 1938, the first contract was let on October 27, 1938. That was the tempo throughout. In order to assure completion in the allotted time, the project was divided into contracts ranging from parcels of a few hundred feet up to ten miles in length. The grading and drainage, tunnels, and concrete were all divided under those groupings, and each section was let separately in intervals from one to three weeks. This resulted in many contractors working on various sections simultaneously, which certainly did not simplify the safety problem.

As might be expected in the rush and turmoil of launching such a gigantic project in a race against time, the major points and most necessary ones were considered first. It might be thought that safety regulations and specifications were wanting. It is notable, however, that they were not forgotten; many general provisions were already in force and more detailed specifications were in the making.

It is to the credit of the State Department of Labor and Industry and the P.T.C. that they had the initiative, ability, and unselfishness to call for assistance upon others experienced in this type of work, even though they were from other sections of the country.

The experience of sister states which had been engaged in similar work was utilized, for example: the New York State tunnel code was adopted in part. The P.T.C. selected men with outstanding ability for key positions; it wanted the job done

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right and sought men with the proper knowledge and experience wherever they might be. It was, therefore, not surprising when they secured Mr. T. W. Osgood, former Safety Director on the construction of the mammoth Metropolitan Water District of Southern California. The commission installed Mr. Osgood as Chief Safety Engineer and employed four experienced safety men as his assistants. If anyone doubts the effectiveness of safety education, regulation and enforcement, let them look to the Pennsylvania Turnpike. The statistics are not available at present, but those who have been close to the project can relate the outstanding decrease in accident frequency and severity as Mr. Osgood and his assistants formed their safety program.

This group of men, all of whom had a share in the development of this major project are huddled in one of the tunnels constructed on the Dream Highway.

Preventive Measures Employed

While we are interested in the general result of the Turnpike safety program, we all want to know specifically just what was done to produce this end.

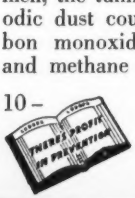
To assure the health of the workmen, the tunnel code called for periodic dust counts of tunnel air, carbon monoxide tests after blasting, and methane tests at various times. The code defined the permissible limits of concentration of any of these contaminants and tunnel air was maintained within these limits. It was the duty of the contractor to make the tests with approved CO Indicators, Midget Impringers, and Methane Testers. Check tests were made at intervals by the P.T.C. safety personnel. The occupational disease section of the Department of Labor and Industry also made periodic tests.

In order to make the desired limit of dust concentration practical and obtainable, the tunnel code also required wet drilling.

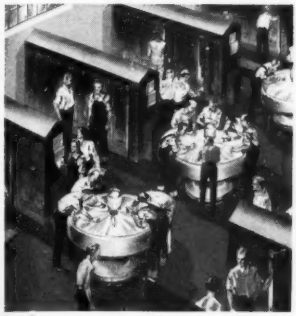
The contractors and the insurance companies went even further in their effort to assure health and reduce accidents. Working on the premise that a healthy workman is a safe workman, they held pre-employment medical examinations, including X-ray pictures of the lung condition of all prospective workers.

The contractors went beyond the regulation and all provided clean and modern shower rooms for the men coming off shift. In addition, many camps maintained commissaries and clean, reasonably-priced sleeping and boarding facilities.

The regulations further provided for many personal protective devices,



KEEP YOUR WASHING FACILITIES IN STEP WITH INCREASED EMPLOYMENT



Modern, sanitary and quick-service wash fixtures make it easy to enlarge your washing facilities. Group fixtures,—Bradley Washfountains—serve up to 10 simultaneously. They speed up washing, save time as well as reduce water costs 70%. . . . Wherever there are 15 or more persons, a Bradley will save its cost in a short time. Bradley Washfountains are made in full circle and semi-circle models.

WRITE FOR WASHROOM LAYOUT SUGGESTIONS

Ideas that will help you extend your present washing facilities or plan a new economical washroom are included in our new booklet "Washroom Layouts." Why not write for a copy today? BRADLEY WASHFOUNTAIN CO., 2259 W. Michigan Street, Milwaukee, Wisconsin.

Write for New Washroom Layout Booklet

BRADLEY
WASHFOUNTAINS
Let Our Washroom Consultants Aid You

such as hats, safety toe boots, and goggles. No one, without exception, was allowed entrance to any of the tunnels without protective hats.

There were very definite provisions on the detailed construction of the powder magazines as well as provisions for the method of transporting powder from the magazine to the job site. The Department of Labor and Industry inspected all magazines before a permit for dynamite storage was granted.

The insurance carriers provided hospitals at each tunnel portal with full time doctors or, in some cases, male nurses in attendance. The hospital facilities and personnel on this project were the equal, if not better, than those of any other project of similar nature. That this had much to do with the low severity rate of accidents is but common sense.

One might enumerate pages of safety provisions on this subject. Among the other provisions, such major points as steel reinforcement and proper supporting of the tunnel roof were stressed; for permissible lights, electric cap lamps were required. In general, every worthwhile and sensible suggestion for the protection of the men was followed.

But we have, in stressing the regulations of the P.T.C. and the State tunnel code as providing for all of these practices, failed to mention something of unusual significance. These regulations were not in force legally until all but one of the tunnel contracts had been let and, therefore, did not legally apply against the contractors. It is of great significance, therefore, that all of the contractors followed the provisions and even

(Continued on page 31)

Minimizing Spray Booth Hazards by Proper Engineering Design

By R. A. SHAW, Murray Corporation of America, Detroit, Michigan

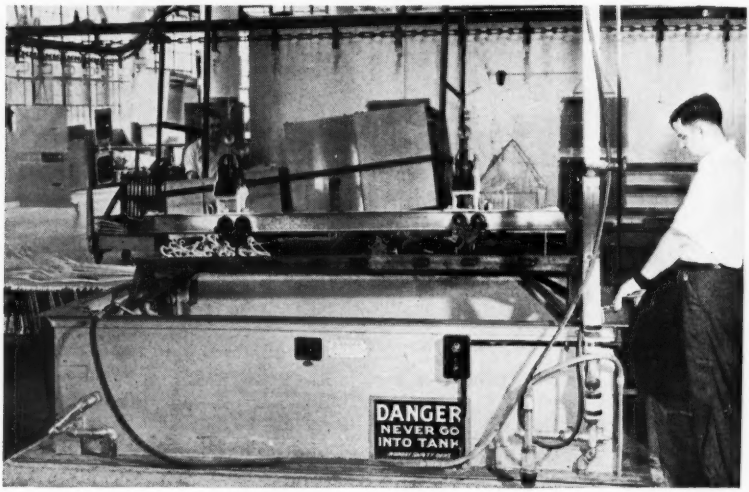


Figure 1—The degreaser unit used to provide absolute cleanliness on the enamel surface.

THE Murray Corporation of America, Detroit, Michigan, gives utmost consideration to the health of its employees. When a new operation is about to be employed the plant engineer and lay-out department get together with the medical and safety departments. Each of these men advances his specific knowledge for the betterment of any industrial relation problem in the manufacturing process. In the following word and picture account you get an idea of how we handled a particularly hazardous spray booth operation.

This modern spray booth system has a combination of cleaning units. First, the "degreaser," next the spraying method with "water spray," and third, the oven developing a steady heat of 275° to 325°F. (gas heat). In order to promote a perfect enamel surface, an essential is absolute cleanliness which has been accomplished by the application of the degreaser unit, shown in Figure 1. This tank

extends 3 feet above the floor and the bottom below the ceiling and the floor, thus eliminating the usual hazards of a pit with control valves; here all pipes and valves are in the open. The cabinets are loaded on a carrier with a screen bottom and put at an angle in all directions with allowance for draining. This cage is lowered into the pit or tank and is automatically returned, then pushed around to the oven conveyor and loaded onto the special hood designed to handle each type of cabinet to be sprayed. A conveyor carries the cabinet into the spray booths and through the first coat oven, then, into the second coat spray booth and through the second department of the baking oven, applying synthetic enamel with 350° to 380°, requiring one hour to complete the cycle.

Figure 2 illustrates the second coat being applied at the booth equipped with water sprays which carries all through the separating unit and the paint is carried separately to the reclaiming tanks on the floor below. The room temperature remains at 80° as a result of a built up low pressure atmosphere which eliminates all dust or lint from within the room. The floor has received a light coat of wax.

Spraymen are equipped with suits, gloves, and a thin helmet supplied with a low pressure of air. The helmet with air supply and built up low pressure within the spray makes for very effective health precautionary measures. Lighting is of vapor type and 100% fire proof.

Repairs Within Oven Area

Within the oven, in case of trouble, the repairmen are provided with asbestos suits and helmets as a guard against inside temperature—allowance being made only for minute or short inspections. If it is found necessary for a regular repair, the temperature is reduced.

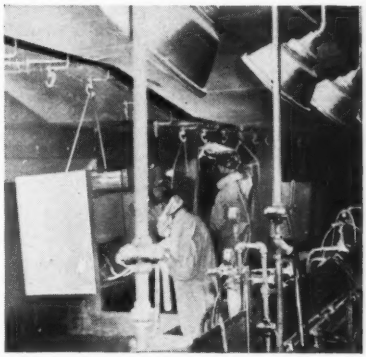


Figure 2

In Figure 3 the complete cycle of the conveyor with enamel parts is shown along with the horizontal U-bend in the carrying hook which

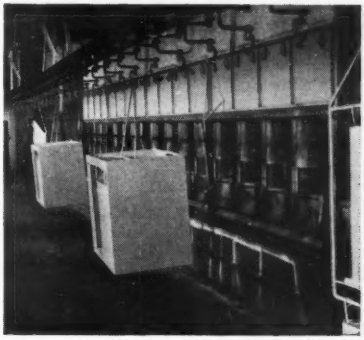


Figure 3

fits around a guard to catch loose particles from dropping on freshly sprayed parts. At the side the water and paint separating units are shown.

Right off the Docket

The trend of litigation on workmen's health and accident compensation is reflected in these briefs of the latest and most representative cases coming to trial in the intervals between issues. Familiarity with this trend is important to every industrialist.

Shooting of Employee During Strike Held "Accident."

An employee who was shot, by mistake, by officers who, at employer's request during a strike, had been placed on an island on which employer owned property was killed by an accident "in course of employment" where industrial violence had created a hazard which was not common to the public generally, and employee, when shot, was returning from his work to the island in a boat, in which, at request of employer's foreman, he was bringing other employees, and employer had agreed to protect employees remaining at work and had attempted to provide them with safe means of transportation in and out of plant. *Scott vs Industrial Commission* (Ill) 29 N.E. 2nd 93 (June-1940)

* * *

Hernia Case

Evidence that employee felt a sharp pain in his right side while lifting a case of tomato juice, weighing between 45 and 50 lbs., that he was unable to continue work because of the pain, that after arriving home employee noticed a lump on his side, that the next morning physician told employee that he had a hernia, and that the same day he went to the office of his employee's insurance carrier, justified referee's finding that employee's hernia resulted from violence to the physical structure of his body. An award was granted.
Palermo vs North East Preserving Works (Penn) 15 Atl. 2nd 44 (July-1940)

Heart Strain Held Not Due to Over Exertion

The worker's death in this case was found to have been caused by chronic myocarditis and angina pectoris. The decedent was 51 years old, and his work consisted in driving a horse in the company's mine hauling cars of coal. Frequently the cars became derailed and the decedent helped to place them back on the tracks. At the end of a certain working day, a day on which the decedent had helped to replace a number of derailed cars, although not any more than he ordinarily was accustomed to do, the decedent left the mine, walked some 200 feet, collapsed and died almost immediately. The claim was made that the death was due to an accident from overexertion. It was conceded that the worker had been suffering from a serious heart ailment.

The Court refused an award. It stated that the fact that the employee was suffering from a heart ailment which made him susceptible to injury from over exertion would not defeat his right to compensation, but that in this case there was no showing of any unusual exertion, and death hastened merely by performance of usual work and ordinary duties cannot be treated as resulting from an injury from accidental means.
Dolinar vs Pittsburgh Terminal Coal Corp. (Penn) 14 Atl 2nd 871 (July-1940)

* * *

Death From "Act of God" Held Compensable

On the morning of April 6, 1936, the City of Gainesville, Georgia, was visited

by a tornado which in two minutes demolished or damaged many buildings, and killed approximately 200 people and injured approximately 1000. The husband of the claimant and five of his fellow employees were killed when the building in which they were working collapsed. The defendants resisted the claim which was made for compensation alleging that there was no evidence that the deceased's death arose out of the employment, that his death was due to an act of God (a tornado), and consequently there should be no recovery.

The Court made an award for the death. It stated that injuries sustained by employees as a result of windstorms or tornadoes are not ordinarily compensable if such employees are not exposed to the risk of such harm to a greater degree than the public generally in the same vicinity, but compensation may be had if the injured employee is, by reason of his employment, specially exposed to injury from such causes. In other words, the test is not whether the injury was caused by an act of God, but is whether the one injured was by his employment specially endangered by an act of God. In this case it was shown that the building in which the deceased employee was working was of inferior construction, overloaded, and thereby greatly increased the hazard of accident by storm.
Maryland Casualty Co. et al vs Lilly (Georgia) 10 S.E. 2nd 110 (July-1940)

* * *

Pre-existing Disease Combined With Accident Brings Award

The claimant, a plumber, worked for four days laying sewer pipes. His work required him to be on his hands and knees almost all of the time in a cramped, strenuous position. The claimant was an able bodied man although suffering from arteriosclerosis. During the fifth day on the job, the claimant slipped while pulling a sewer pipe in place, felt pain in one of his legs, and was unable to continue his work. Examination disclosed that the cramped position in which the claimant had been working, combined with his condition of arteriosclerosis, had resulted in an impairment of circulation in his leg. Gangrene developed and it became necessary to amputate the leg.

The Court granted an award. It held that this was an "accident arising out of and in the course of employment"; that where injury results partly from accident and partly from pre-existing disease, it is compensable if accident hastened or accelerated the ultimate result and it is immaterial that claimant would, even if accident had not occurred, have become totally disabled by disease.
Hamlin vs University of Idaho et al (Idaho) 104 Pac 2nd 625 (July1940)

* * *

Strain From Heavy Lifting Called "Accidental Injury."

In this case the claimant, together with five other fellow employees, was engaged in lifting a conveyor weighing some 1,000 pounds. The conveyor was to be lifted by a concerted effort on the part of all of the workmen, such effort to be exerted at the same time upon a given signal by their foreman. When the foreman signaled the men to begin lifting, the claimant did so, but the other workmen failed to act upon the signal. The heavy strain placed upon the claimant in his attempt to lift the conveyor without the aid of the other workers resulted in a strain which ruptured a blood vessel in his stomach. A claim was made for compensation, which was granted.

The court held the injury in this case to be an "accidental injury" within the meaning of the Michigan Compensation Act. The court said that the attributes of an accidental injury are that the injury should be the result of a fortuitous, unexpected and unforeseen occurrence. It held that the claimant in this case could not have expected his fellow workers to ignore the signal of their foreman and that, consequently, the extraordinary strain placed on him by their failure to observe the signal was unexpected and unforeseen and brought the occurrence within the term "accidental injury."
Crassweller vs. Briggs Manufacturing Company, al. (Michigan) 293 N.W. 711 (September, 1940)

Digested and compiled by
Hilton E. Roberts
Member of the Ohio and New York Bar

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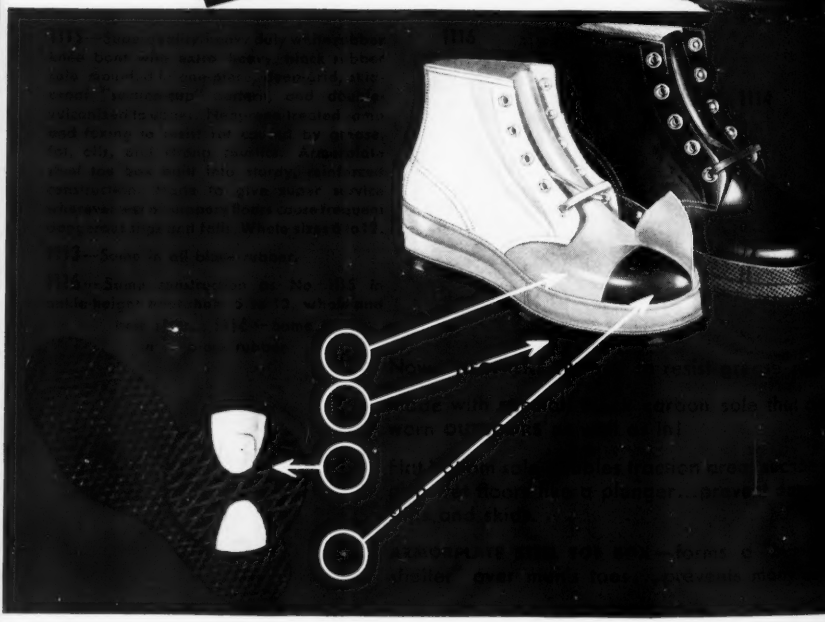

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safety boots
for outdoor and indoor wear

IGH SAFETY SHOE CO. INC. Allentown, Pa.

Health Activities Pay Out In This Small Plant

By ADA WHITE, *Personnel Director*
Continental Mills, Inc., Philadelphia, Pa.

SETTING up an adequate, but not too elaborate, health and welfare program in the smaller industrial plant is often a vexing problem to its management. Frequently it is one of those problems about which nothing is ever finally done, perhaps because management fears its potential cost, for which it can see no tangible return, or more likely because it fails entirely to properly analyze the cost of such a project.

The fact is sometimes overlooked that a very small but good plan of this kind, conscientiously administered, will bring far better results than the most elaborate plan of its kind carelessly handled.

Continental Mills, Inc., manufacturers of woolens, has a personnel of about five hundred men and women. Housed in several buildings, none of them modern, the job of just keeping them clean is a problem in itself. It occupies the full time of one scrubbing machine operator, two janitors, and a matron. All floors throughout the plant are scrubbed regularly, dressing rooms are kept really clean and plant windows are washed regularly. Thus the old buildings have at least an aspect of cleanliness and cheerfulness.

Effective sanitation facilities, meticulous housekeeping practices do a job at Continental Mills.

Showers Installed

Whenever space permits showers are installed. All dressing rooms have a sufficient supply of wash bowls so that there is no undue crowding at washing-up time. An abundance of clean hot water is piped into every dressing and shower room and this feature alone has contributed more in the way of comfort and convenience to the employees than one would imagine. Few men feel grouchy or ill-treated after a good hot shower followed by a cool rinse.

A small but well equipped dispensary has a part time registered nurse in charge. She not only takes care of the accident cases but ministers to many of the common garden variety of illness which, if given prompt medical attention in the beginning, do not develop into lost time cases.

The men and women are encouraged to drink milk with their lunches and in between. To this end a milk man makes trips through the plant twice daily. Other refreshments are available in dispensing machines and

while an undue waste of time for this purpose is not permitted, it is recognized that the fatigue period, which really does occur after several hours of application to a job, is greatly lessened by a glass of milk or a bar of good candy.

An Employees' Beneficial Association, run by the employees themselves but paid for on an employer-employee contributory plan, insures an income of $15.00 a week for the ill employee during his absence.

A Group Insurance Plan is also operated on a contributory basis, thus providing a basis of security for the wage-earner's family in the event of his passing on.

Voluntary contributions by employees support a fund which is used to lend a helping hand to a fellow worker who is temporarily in need.

JOHNSON ANKLE ACTION RUBBER LADDER SHOES
WILL IMPROVE YOUR SAFETY PROGRAM
THEY WILL NOT SLIP

Over 10,000 plants are now using them. Endorsed by Safety Engineers everywhere.
Send us a trial order to-day.

$1.80 per pair for extension ladders.
JOHNSON LADDER SHOE CO.
EAU CLAIRE, WIS.

most satisfaction and to which we cling most determinedly in times of stress.

So we feel that in addition to maintaining a wage scale which is considerably above that of the industry

Management is rapidly taking steps to eliminate conditions as indicated in the left hand illustration. Money spent for properly designed and engineered preventive equipment will be returned many times over.

A small plant library furnishes reading matter on technical and inspirational subjects.

These various plans, designed to contribute to the health and general well-being of the worker, are none of them costly in themselves. They are simple things, but it is the simple things in life from which we derive in general, these plain, common-sense features add greatly to an employee's sense of security and contentment. They make a man want to stay on with our organization and to give it the best he has—not because he is forced to, but because that is the thing he wants to do.

Suggestions for an Industrial Dispensary

For factories of 200 employees or less, the medical dispensary should have approximately 125 sq. feet of floor space with a partition or semi-permanent screen dividing it into two rooms. It should be situated as near

The industrial dispensary is able to do fine work in relieving employees who suffer minor injuries, bruises, cuts, infections and others requiring first-aid.

production equipment as possible, with the following qualifications kept in mind:

a. Quietness
b. Good ventilation
c. Adequate heating
d. Toilet facilities
e. Hot and cold running water
f. Natural and artificial illumination

It should be painted in light colors, spotlessly maintained; have a waiting bench or seats accessible; and include at least the following equipment:

1 file for medical records
1 adjustable floor lamp
1 instrument cabinet
1 folding stretcher
1 cot
1 table, enameled top (kitchen size)
2 white enamel chairs
1 sanitary can with cover
1 portable first aid kit
1 stool
1 small sterilizer (gas, electric, alcohol, steam or oil)
(Small equipment such as basins, 2-qt. pitcher, appropriate instruments)
Estimated total cost, including construction of walls of room—$300.00.

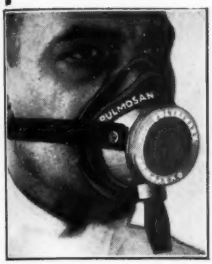
For factories employing between 200 and 500 employees, there should be approximately 300 sq. ft. of floor space, divided into two rooms. They should be *situated as described above* for smaller factories, and should contain at least the following equipment:

In treatment room:
1 file for medical records
3 chairs, white enamel
1 adjustable floor lamp
1 instrument cabinet
1 sanitary can with cover
1 folding stretcher
1 portable first aid kit
1 stool
1 chair, white enamel, with head-rest
2 tables, enameled top (kitchen size)
1 small sterilizer (gas, electric, alcohol, steam or oil)
(Smaller additional equipment, such as basins, pitchers, foot baths, arm baths, and appropriate instruments)

In examination room:
1 cot
1 stool
1 scale
1 examination table
1 small desk or table
1 chair, white enamel
Miscellaneous equipment, such as eye chart, blankets, etc.
Estimated total cost, including construction of walls of room—$425.00.

Pulmosan No. 35
Dust Respirator Hood

For conditions of irritating dusts, severe concentrations or prolonged exposure, the No. 35 Dust Respirator Hood provides additional protection for the face, neck and head. Made of light, dust-tight cloth, with large glass eyepieces and fitted with the famous R-110 Dustpruf Respirator (see below). Assembly held in place by respirator headbands.



-110 DUST RESPIRATOR

Efficient, extremely easy-breathing protection. Weighs only 3 ounces. Uses inexpensive replaceable filters.

WRITE for literature and prices on Pulmosan Dust Hoods.

Pulmosan Safety Equipment Corp.
Dept. OH, 176 Johnson St., Brooklyn, N.Y.

Electric Eye Measures Solvent Vapors in Air

A hypersensitive electric eye which measures minute traces of solvent vapors in air—as low as one part in a million—was announced by the DuPont Company. State health and insurance authorities regard the development as "a great contribution to the safety of industrial workers using volatile solvents," says Mr. Hanson, DuPont physicist.

The instrument is so acute that it can determine the presence of two drops of solvent in an average size room. It was designed primarily to determine the amount of solvents in the air around equipment used for dry-cleaning, metal degreasing, and in chemical manufacturing plants.

Mr. Hanson called his machine an "ultra-violet photometer." It employs photoelectric cells to measure the opacity of the vapors. When explored by ultra-violet light, of short wave length, they actually cast shadows on a fluorescent screen, permitting accurate appraisal of their density, he explained.

Two to three determinations a minute may be made. The device is portable and can be handled by a non-technical operator.

"During recent years, need for such an instrument has arisen due to the wider use of all type of solvents in industry," Mr. Hanson reported. "This trend has resulted in extensive studies of factors concerning concentration of vapors around industrial equipment, to determine the health hazards involved. The device was devoloped primarily to assist manufacturers in developing safer and more efficient equipment.

Jolted Off the Job

Occupational Diseases from Vibrating Hand Tools

CAREY P. McCORD, M.D.
The Industrial Health Conservancy Laboratories
Detroit, Michigan

SO ENGROSSED have we become in those occupational diseases caused by chemicals—dusts, liquids, vapor, gases, mists, fumes, etc., that we have a proneness to overlook those other diseases that may be caused by physical agents. In this category of causes fall rays, excessive heat or cold, noise and other vibrations. Since this paper is pledged to brevity, it becomes necessary to limit comment to hand vibrating tools, ranging downward from that size exemplified by the commonly seen ram used in digging up concrete, to the pencil-like tool applied in stone engraving. This leaves untouched many larger units such as the jack hammers, forges, steam shovels and kindred devices.

Having fenced off a small territory, it may be recalled that these vibrating tools may be motivated by air (pneumatic tools) or electricity. In small tool work, steam is seldom the source of power. On the whole, the pneumatic tools are more treacherous since the escaping air may add coldness to whatever deleterious actions are directly produced by vibrations. In addition to two examples already cited, there may be included, varied types of hammers, drills, chisels, edge turners, tampers, stuffers, riveters, scalers, caulkers, etc. The temptation is to embrace the sewing machine, but that stands somewhat apart from our self-imposed limitations.

Some Types of Vibrating Injuries

The lesions produced by vibrating hand tools may vary from slight numbness in the finger tips as the lowest order of involvement, to extensive bony changes and bursitis about the shoulder joints. As a rule, the heavier the machine, the higher up the arm may difficulties be encountered. Within the range of size of tools contemplated by this comment, organic lesions of any character seldom extend above the forearm and more often are limited to the fingers, hands, and tissues about the wrists. In addition to organic disturbances, vibrating tools may give rise to divers neuroses, which in the long run may prove more troublesome than genuine afflictions.

The most striking, although not the most common, of these disturbances is given the name of "white fingers" or "dead fingers." This disease has been known since 1911. It is not known to arise unless exposure to cold co-exists the handling of vibrating tools. Since the left hand more

often is used in grasping the tool, this condition is more often encountered on that hand. Not all fingers are equally involved, the index and little finger being especially prone to disturbances, the thumb next in order, the third and fourth fingers rarely being attacked. In this disease, the fingers become cold, pale and numb, starting at the tip, but not necessarily extending even the full length of the finger or further. No pain is likely to occur, no swelling and no redness. The fingers are not paralyzed and there arises no muscular weakness or tremors. Apparently this condition is induced by spasms of capillaries which spasm is brought about by tool vibrations and only in the presence of cold.

This condition is not to be confused with chillblains, which may affect the fingers of any workers in cold weather. In chillblains, the fingers become red, swollen, hot to touch, and painful.

Some vibrating tools provide as many as 4000 strokes per minute. Others are so slow as to strike only about 250 times per minute. Tools in commoner use approximate 1500 blows per minute. It is in the range around 1500 and upward that appears favorable to the causation of "white fingers."

A second type of injury associated with hand tools is concerned with the fascia of the palmar surface of the hand, together with certain muscles and nerves. Damage to the palmar fascia, followed by thickening, and contracture, is best known to the medical profession as "Dupuytren's contraction." This disease chiefly has been associated with such work as upholstering in which stretching and pulling of fabrics constitutes the principal exposure. At the present time, the trend of opinion is adverse to the concept that vibrating tool work may produce this affliction. Greater consideration is being paid infection, continuous pressure and to heredity.

EDITOR'S NOTE: The Georgia Court of Appeals recently upheld a decision of a lower court which had allowed compensation to an employee for a blood clot caused by jarring in the operation of a gas shovel. The injured employee operated a gas shovel, weighing 17 or 18 tons, and in the performance of his work was compelled to sit in a cramped position. The constant jarring and jolting of the shovel resulted in the formation of blood clots in both legs, causing severe pain and disabling him for work.

The prospect of injury to joints increases with the size of the tool and in any event are infrequent. However, when joint injuries do occur, they are of greater significance than the more common disturbances related to blood vessels, muscles and tendon sheaths. The elbow joint is the one most frequently attacked. More than 75% of severe hand tool injuries of joints are associated with elbows. This type of disturbance is more likely to arise among miners, stone drillers, riveters, in contrast to lighter operations connected with manufacturing. Tools of a frequency between 2000 and 2500 strokes per minute appear to favor the formation of bony cysts and other changes in the bones, particularly of the wrists.

Lastly, in this brief summary may be mentioned the well known tenosynovitis of common occurrence along the extensor tendons on the back of the hand. Commonly this condition is known as "ganglia" or "the bunches." The mechanism of this disturbance is not fully known, but it does accompany some hand tool work. Inflam-

mation appears along the tendon and the sleeve through which the tendons move. Exudation follows giving rise to the tumor-like masses through which the tendons may be seen to move. These ganglia may be painful, are persistent, may recur after rupture of the synovial sac and often call for surgical interference.

Granting some divergence of opinion, it appears that at least these four distinct types of injury may be associated with vibrating hand tools.

Some Items of Prevention

No vibrating tool work should be carried out in a cold workroom.

During very cold weather, this type of work should not be started until the fingers and hands are comfortably warm.

Other things being equal, a preference is expressed for electrical tools over pneumatic tools, in order to escape one possible source of cold.

The tighter the hand grasp in closing about a tool the greater the prospect of injury in connection with any given rate and amplitude of vibration.

Shielding of the grasped portion of the tool with cork, sponge rubber or similar collars diminishes the shock transferred to the operator.

The slower the rate of vibration the less is the prospect of injury in most instances. It is no less recognized that heavy, slowly vibrating tools may be more harmful than others that are smaller and faster.

On occasion, strapping of the wrist offers further protection in vibrating operations.

Continuation of work after evidence of injury has appeared is undesirable. This often paves the way for severe and disabling affections.

Workers with any peripheral vascular disease or any disease likely to involve the peripheral circulation, should not be employed on vibrating tool jobs. Workers with arthritis particularly of the upper extremities do not fare well on employments of this character.

If pneumatic tools are employed, the lowest pressure compatible with the operation in hand should be applied. The escape of air should be directed outward and downward so as to come the least in contact with the operator.

The harder the material worked upon the greater the risk of injury. Tamping of sand in a foundry mold provides less percussion than the snag chiseling of a casting.

New Employees

New employees should be enured to this work gradually, with provisions for short hours interspersed with rest periods.

To the extent possible, vibrating tools should be mounted or suspended so that some of the percussion shock may be born by such support rather than entirely by the operator. Many devices lend themselves to the provision of special handles that are beneficial.

Where practical, pressure tools should be substituted for vibrating tools. This opportunity finds example in pressure riveting.

Manufacturers' Literature and New Products are on pages 2 and 3 this month.

Cost and Causes of Eye Accidents Photo-Filmed

To help decrease industrial eye accidents which annually cost $50,000,000, according to Louis Resnick of the National Society for the Prevention of Blindness, the American Optical Company, Southbridge, Mass., has just published an interesting and dramatic illustrated talk on the cost and causes of eye accidents with suggestions included to eliminate the causes and lower the costs.

The talk is supported by a series of significant charts and has been prepared for delivery before safety engineers, management executives, and people or organizations interested in the safety movement. Copies of the talk can be borrowed from the optical concern which will be glad to supply a speaker to present it, if one is desired. Easily delivered in thirty minutes or less, the talk is free of advertising material.

The theme of the message is—EYES ARE EXPENSIVE TARGETS—and the point is amply proven by factual matter and statistics included in the talk and charts.

This illustrated talk, so far as known, is the first of its kind to be prepared by any manufacturer of safety equipment.

Falls

Why do falls occur? What can be done to prevent them? A review of accident figures, as well as ordinary common sense, should indicate the desirability of reminding management, supervisors and employees to watch out for:

1. Grease, oil or water on floors and steps.
2. Loose or fixed objects on floors and stairs.
3. Loose material that may shift under foot.
4. Uneven or defective floors.
5. Stairs with irregular or curving treads or winders.
6. Ladders with defective rungs, rails or steps.
7. All makeshift supports, such as boxes, barrels, chairs, tables, etc.
8. Unguarded floor openings and loose covers over floor openings.
9. Wet and slippery pavements and walks.
10. Blind corners and dark places; walking without looking ahead.
11. Shoes with worn down heels or loose soles.
12. Heels catching in trouser cuffs.
13. Leaning too far out of windows.
14. Failure to use safety belts and life lines when working in high places.
15. Hurrying on slippery or uneven surfaces, stairs or ramps.
16. Horseplay.
17. Failure to use handrail on stairs.

When the Call Is For

"A Bandage -Quick!"

Use **Band-me-Quick** new Individual Bandage. Made of Gauztex. Self-adhering gauze sticks only to itself—not to flesh. Medicated pad. 9-inch length. Keeps out dirt yet air circulates freely. **No Throw-Aways.** Each Band-me-Quick cellophane wrapped. **Stays fresh.** 100 to a box. Order from supply house or GENERAL BANDAGES, INC., 508 S. Dearborn St., Chicago.

GAUZTEX

Band-me-Quick

This month in *Washington*

NATIONAL DEFENSE ACTIVITIES RECKON WITH JOB MISTAKES AND SABOTAGE

By W. T. CAMERON, Chief Safety Adviser, Division of Labor Standards, U. S. Department of Labor

AS POINTED out in this column several months ago, one of the purposes of the National Committee for the Conservation of Manpower in Defense Industries is to "prevent disruption and delays to production schedules, damage to machines and equipment, and wastage of material which follow in the wake of accidents." Every safety man knows that the cost to industry occasioned by these breaks in the production schedule averages four times that of the cost of the injury alone which may result from the accident. While our end point is the prevention of injuries and the resultant suffering and economic loss to workers; nevertheless, when our National Defense Program calls for "continuous, uninterrupted production," the same diligent attention must be given to *accident* prevention as is being given to *injury* prevention.

Someone has figured out that the job mistakes which cause these *accidents* occur twenty-one times before finally resulting in accidental injury. In other words, it's 20 to 1 that the "accident" will only be a "close shave"! These "close calls" probably never show up in the record, nevertheless, they all detract in a greater or lesser degree from productive efficiency.

Safety, therefore, when considered in this broader sense, is definitely a production responsibility and includes not only *Methods Engineering* to eliminate job mistakes, but includes the control of all factors which may render the worker less physically fit for the job of maintaining quantity and quality production. It is because of this approach to safety that successful safety engineers have proved themselves an important tool of management and which makes their work so essential to the National Defense.

Protecting Plant Facilities

Recent newspaper publicity has made the country aware of another type of "accident" which looms as a more spectacular (if perhaps not as great) threat to our Defense Program and to the lives of workers. This is the "man-made" accident, i.e., the *deliberate* damage to machinery, the *intentionally* started fire, the *deliberate* spoilage of material or the *planned* explosion. Fortunately, the same type of vigilance, the same attention to details of construction, control, arrangement and housekeeping which have worked so successfully in preventing the usual type of accident can be brought to bear in the control of this, the "planned accident."

The Federal Bureau of Investigation, preeminent in the field of controlling sabotage, espionage and subversive activities, have recently completed a series of field plant visit studies in the development of a program of plant sabotage prevention. Their findings and recommendations, entitled "Suggestions for the Protection of Industrial Facilities," are available to safety men and other executive officials. There is included practical information on fencing, floodlighting, fire prevention and control, employee identification systems, watchman services, and other valuable management information. Single copies may be obtained from the Federal Bureau of Investigation, Washington, D.C., by responsible plant operating officials. It is necessary to give complete information, including name, title, business connection, product manufactured, when requesting a copy, and necessary to sign a receipt for the publication when received.

Safety Poster

The National Committee for the Conservation of Manpower in Defense Industries has just announced the completion of the first in a series of safety posters available to any company producing defense material. Carrying a picture of Uncle Sam, and printed in red, white and blue, the poster carries the following message:

This Plant is Making Material Essential to the National Defense

●

We can deliver the goods by working safely in a safe workshop.

Idea for Good Housekeeping

The quaint character pictured below has proven a painless, effective solution to one of Industry's paramount operating problems—that of promoting safety and efficiency through plant cleanliness.

"Sloppy Sam" is the unkempt gentleman's name, and he's a brain-child of the Plant Inspection Committee in the Buffalo, N.Y., steel-service plant of Joseph T. Ryerson & Son, Inc.

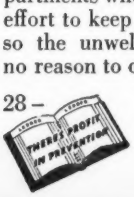
Sam is given lodging in departments proclaimed sub-standard by the Committee during their weekly inspection tours. His visits evoke good natured chiding from members of other departments who in turn make a definite effort to keep their departments clean so the unwelcome visitor will have no reason to call on them. The results of this humorous approach to the cleanliness problem were so favorable that duplicates of Sam were made for the company's other plants. The figures are flame-cut by Ryerson from rolled steel plate and painted in bizarre colors.

As cleanliness is a definite contribution to safety and efficiency in any industry, Ryerson's successful sugar-coated approach to this problem can undoubtedly be used to advantage by operating departments in almost every factory or plant.

Papers on Occupational Disease

Original research in the various phases of industrial hygiene and results of investigations of occupational disease exposures which have not yet been brought to light are of value to others working in this field. The Annual Meeting of the *American Industrial Hygiene Association*—to be held the week of May 5, 1941, in Pittsburgh, Pennsylvania—affords an opportunity to present papers on these subjects before a group which is most concerned with such developments.

In an effort to provide a balanced program of high quality papers, the Program Committee requests the cooperation of Association members. If you are at present engaged in work or know of work being done which should be reported at this meeting, will you communicate at once with GORDON C. HARROLD, Ph.D., Industrial Hygiene Laboratory, Chrysler Corporation, 7900 Joseph Campau Avenue, Detroit, Michigan.

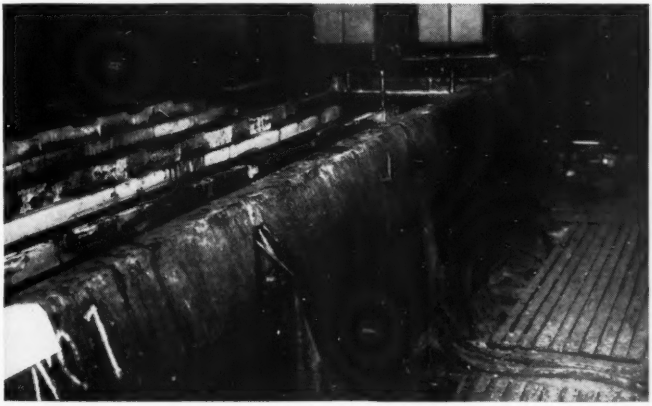


Fume Explosion

An accident at a Columbus, Ohio, plant caused fatal injuries to a woman supervisor and injured two other employees.

The accident occurred in a small paint booth where small metal parts were painted and which was ventilated by a fan in the outside wall and an air shaft in the ceiling. A paint thinner used in the department was highly volatile and explosive. During the lunch hour, the supervisor who was killed and four other women employees went into this booth to eat their lunch and plugged an electric hot plate into the light socket to make coffee, contrary to rules of the company, which also had "no smoking" signs displayed. One of the women also shut off the fan to prevent a draft. Accumulated fumes from the paint thinner were ignited and caused the explosion.

Investigation showed that the accident was due to faulty supervision and to lack of judgment on the part of the employees who closed up the room, permitting the fumes to accumulate and then heat up the hot plate.



Chrome plating tank showing exhaust hoods on sides and leading to piping under floor. Such engineering materially reduces occupational hazards.

New Chicago Office and Warehouse for Detroit Rex

The Detroit Rex Products Company, manufacturers of Degreasing Machines, Solvents, Industrial Alkali Compounds and Dry Cleaning Equipment, have moved their Chicago Office to larger quarters at 1166 West Cermak Road.

Mr. S. Crooks, regional manager, states that in connection with these new modern offices there will be an equipment display room and complete warehouse facilities where stocks of degreasing solvents and alkalies will be maintained for quick delivery in the Chicago region.

Regional Committee for Conservation of Manpower in Defense Industries

Mr. Carl L. Smith, Regional Representative of the National Committee for Conservation of Manpower in Defense Industries for Region 4, which comprises Michigan, Ohio, Western Pennsylvania, West Virginia, and Kentucky, has announced the selection of the following representative experts in connection with the activities of this Committee:

Mr. Ross L. Leffler, of the Carnegie-Illinois Steel Corporation, has been named Chairman for the western half of Pennsylvania, and his associates will be Mr. N. V. B. Ziegler, Director of Safety and Compensation of the Aluminum Co. of America; Mr. G. O. Griffin, Safety Director of the Dravo Corporation; Mr. Victor O. Will, Safety Director of the Mesta Machine Company; Dr. T. Lysle Hazlett, Medical Director of the Westinghouse Electric & Manufacturing Co.; Mr. Clarence Ralston, in charge of Safety for the Pittsburgh Plate Glass Co.; and Mr. John A. Oartel, formerly President and now Field Representative of the Western Pennsylvania Safety Council.

Duties

Through the voluntary services of these industrial safety experts, the defense production industries in the Western Pennsylvania area will be directly contacted and given information designed to: (1) Prevent the maiming, killing, and injuring of skilled workers essential to industries engaged in defense production; (2) prevent the loss of valuable production time on the part of workers through sickness, accidental injury, and occupational disease; (3) prevent disruption and delays to production schedules, damage to machines and equipment and wastage of materials which follow in the wake of accidents; (4) control, insofar as possible, all factors which may render the worker less physically fit for the job of maintaining quantity and quality production.

In accordance with the provisions of the Walsh-Healy Act, which includes certain safety and health provisions in industries operating on government contracts, this Committee is furnished a record of each contract, as placed; at the same time, the plant manager of the contractor will be notified by M. L. Metcalfe Walling, Administrator of the Division of Public Contacts, of his general responsibilities to safeguard his employees in respect to work hazards and of the availability of specialists to give technical advice and assistance in the whole field of safety and industrial hygiene.

Clinics on Health in Industry

The National Association of Manufacturers is holding a number of "clinics on health in industry" in key cities throughout the country. State and local associations have joined with the N.A.M. in arranging these programs, which bring together manufacturing executives, industrial-relations experts, physicians, and others interested in industrial health. The underlying theme is that "man power is the first line of this Nation's defense."

Health for Turnpike . . .

(Continued from page 11)

went beyond them to assure greater safety.

The word *co-operation* cannot be overworked in this article, for that is one thing that did exist everywhere on the Pennsylvania Turnpike. It is the most outstanding reason for the results achieved. The P.T.C. safety engineers had the continuous co-operation of the full time safety engineers assigned to the project by the various insurance companies. As previously mentioned, the various branches of the Department of Labor and Industry were of much assistance toward one end—greater safety. Under the sponsorship of one unit of the

A hospital occupied a prominent spot in construction activities. Modern shower rooms, sleeping and boarding facilities were also maintained.

Department of Labor and Industry, regular monthly meetings were held at The Pennsylvania State College. These meetings were generally of two days' duration and were devoted to various phases of safety in connection with the construction of the Turnpike. The program consisted of various speakers of authority on work experienced in tunnel construction. The exchange of ideas and the thoughts carried away from the meetings undoubtedly played a part in maintaining greater safety.

Wet drilling was used throughout to make the desired limit of dust concentration practical and obtainable.

We have considered regulations and company attitude towards safety in large construction, but what of the workmen in this industry? How were they reacting to safety? One could tell various happenings indicative of their attitude, but there is something that tells the whole story much better. The workmen appearing at the various tunnel camps seeking jobs, came equipped with their own skullguards. When men from all sections of the United States, many coming two thousand miles or more, will go to the trouble of packing and bringing their protective hats, showing up on the job with them on their heads, then they certainly hold safety a part of their work kit.

The safety program on the Pennsylvania Turnpike owes its success to three fundamental points—cooperation, unselfishness, and a common purpose.

This highway is now completed; the most hazardous jobs are over. They call it the dream highway and it is certainly that. It is more, however, for if you could have seen some of the old workings before the new highway got under way, you would have seen a picture—a picture of 52 years ago with workmen driving tunnel by hand drills and safety was undreamed of. You would have heard from the few oldtimers left, how as boys they watched this work. They could tell you how those caught in a tunnel fall were buried just a few hundred feet west of that portal. "Yes sir," said the oldtimer, "They just buried those that got it then, and that was that."

If you are one who likes to regard the present in relation to the past, and use it as a yardstick of progress to the future, the Pennsylvania Turnpike is justly called the dream highway. It stands as an example of safety achievement.

November Air Hygiene Meeting in Pittsburgh Well Attended

Approximately 230 persons attended the fifth annual meeting of the Air Hygiene Foundation which was held at the Mellon Institute, Pittsburgh, Pa., on Nov. 12-13 and which stressed "Industrial Health Defense." Ninety companies sent representatives. Representatives came from 20 states and the District of Columbia. Besides medical directors, industrial hygiene and safety specialists, delegates included company presidents, vice presidents, general managers, public relations, industrial relations and personnel men and research directors.

Twenty-six persons were present from governmental agencies. Represented were a number of the state divisions of industrial hygiene, the U. S. Public Health Service, U. S. Bureau of Mines, U. S. Labor Department and U. S. Navy. Industrial and governmental officials were present from the following states:

California, Delaware, Georgia, Illinois, Indiana, Kentucky, Maryland, Massachusetts, Michigan, Minnesota, Missouri, New Jersey, New York, Ohio, Pennsylvania, Utah, Vermont, Virginia, West Virginia, Wisconsin. OCCUPATIONAL HAZARDS will present some of these papers from time to time.

Wear Safety Shoes

A warehouseman was holding a load on a truck as it was being moved into a railroad car. His foot slipped under the car plate, the truck rolled onto the plate, but the warehouseman's toes were saved by the steel safety toe in the shoe. A loosened heel on his shoe was the only damage suffered.

Every day hundreds of accidents occur wherein the wearing of safety shoes turns what might have been a serious and costly accident into a minor no-lost-time mishap.

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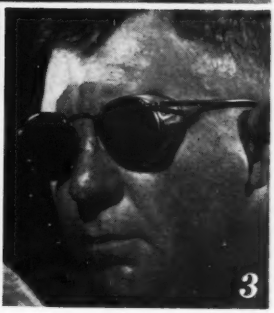

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